United Nations E/CN.9/1999/2

Economic and Social Council

Distr.: General
7 December 1998

Original: English

Commission on Population and Development
Thirty-second session
22–30 March 1999
Item 3 of the provisional agenda*
World population situation

Concise report on world population monitoring, 1999: population growth, structure and distribution

Report of the Secretary-General

Summary

The present report has been prepared in accordance with the terms of reference of the Commission on Population and Development and its topic-oriented prioritized multi-year work programme, which was endorsed by the Economic and Social Council in its resolution 1995/55.

The report provides a summary of recent information on population growth, structure and distribution, and covers such topics as population growth and its components; changing population age structures; population distribution, urbanization and internal migration; and population growth, poverty, food provision and the environment. The report also reviews the population policies Governments have adopted in response to their concerns with national aspects of population and development. This report not only covers past and present trends, but also provides projections to the year 2050. The preliminary, unedited version of the full report is available as a working paper in document ESA/WP/147.

The report was prepared by the Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat; the appendix to this report was based on a contribution from the United Nations Statistics Division.

* E/CN.9/1999/1.

98-38695 (E) 010299

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Introduction

1. The second half of the twentieth century was demographically remarkable. This is especially the case for the quarter-century since the 1974 United Nations World Population Conference in Bucharest. World population size has increased from 4 billion persons to nearly 6 billion today. At the same time, the world population growth rate has fallen from about 2 per cent per year in 1970–1975 to 1.3 per cent today, the average number of children per couple has fallen from 4.5 to 2.7 and life expectancy at birth has risen from 56 years to 65 years. The share of the world's population living in urban areas has increased from 36 to 47 per cent and the number of megacities of 10 million persons or more has multiplied from 5 to 18. The number of persons who have moved to another country has risen to over 125 million today.

2. The demographic transition (that is to say, the transition from high to low birth and death rates) has not proceeded uniformly in all countries. In 1974, the transition was well under way or nearly completed in many countries and had barely begun in others. Although in 1998 this transition has occurred or is occurring in nearly every country, the timing and pace of the transition vary; and in some regions and countries, steps backward are occurring. For example, acquired immunodeficiency syndrome (AIDS) and other emerging diseases in some countries and economic and political dislocations in others have reversed past progress in improving health and reducing mortality.

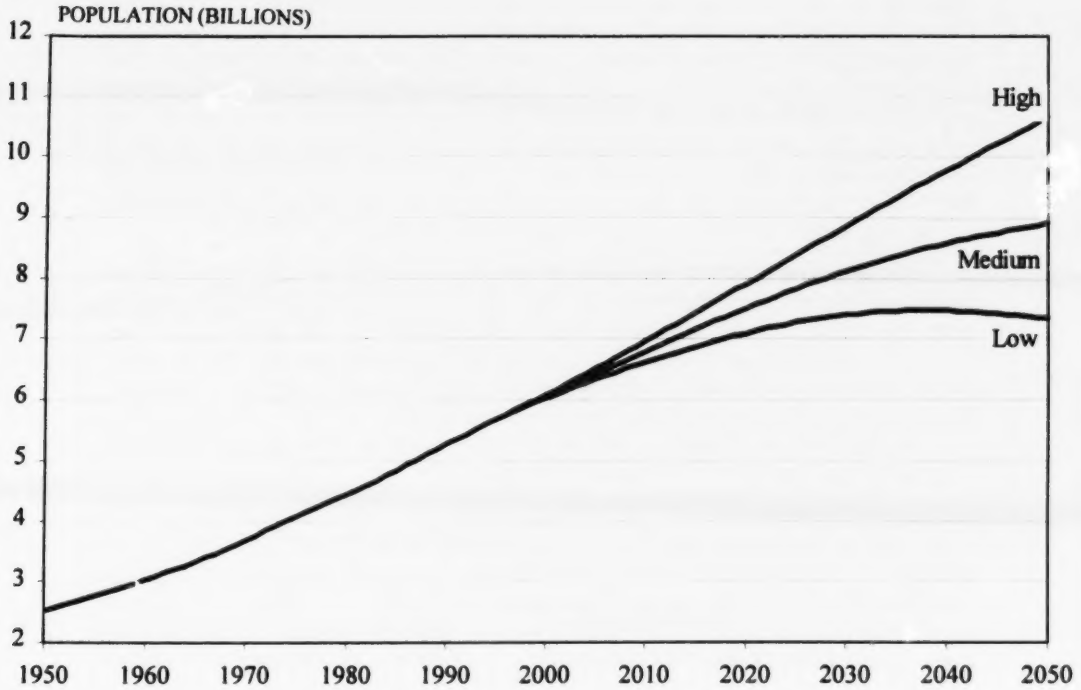
3. The 1999 concise report on population growth, structure and distribution reviews the demographic changes in population size and growth in the world and its urban and rural areas; the changes in mortality, fertility and migration that underlie these changes; and the population policies Governments have adopted in response to their concerns with national aspects of population and development. The concise report concludes with a review of the state of knowledge on the interrelationships of population with poverty, food and the environment.

I. Population growth and its components

4. The world population in 1998 is 5.9 billion persons, growing at a rate of 1.3 per cent annually (figure I). Each year, about 78 million persons are added to the world. About 96 per cent of the total annual population increase occurs in the less developed regions. According to the United Nations official population estimates and projections, the world population in 2050 will be in the range of 7.3 billion to 10.7 billion persons. In the medium-fertility variant projection, which is often considered the most likely, world population will stand at 8.9 billion persons in 2050.

5. As a result of the marked differences in growth patterns, the proportion of people living in the more developed regions has declined and is projected to continue to decline significantly. While in 1970, about one quarter of the world lived in the more developed regions, one of five did so in 1998. In the United Nations medium-fertility variant projection, just 13 per cent of the world population will reside in the more developed regions in 2050.

Figure I
World population size: past estimates and medium-, high- and low fertility variants, 1950–2050



Source: Population Division, Department of Economic and Social Affairs of the United Nations Secretariat, *World Population Prospects: The 1998 Revision* (United Nations publication, forthcoming).

6. Annual population growth rates vary widely among countries, from negative growth among some Eastern European countries to very high growth rates among some African and Asian countries. Altogether, there are 24 countries, constituting 1.7 per cent of the world population, that exhibit average annual growth rates of 3.0 per cent or higher. On the other side of the spectrum, 24 countries, with 6.1 per cent of the global population, have declining populations. Two thirds of the world live in the 88 countries that exhibit growth rates between 0.5 and 2 per cent annually.

7. The number of countries with 100 million or more inhabitants has increased rapidly (see table 1). In 1950, there were just 4 such countries; in 1998 there were 10 and it is projected that by 2050 there will be 18. In 1998, China was the largest country of the world with 1.26 billion persons, followed by India with 982 million persons. The third, fourth and fifth largest were the United States of America (274 million), Indonesia (206 million) and Brazil (166 million). According to the United Nations medium-fertility variant projection, India will be the largest country in the world in 2050 with 1.53 billion persons, followed by China (1.48 billion), the United States (349 million), Pakistan (345 million) and Indonesia (312 million).

Table 1
Countries with a population of over 100 million in 1950, 1998 and 2050

Rank	*Country*	*Population (millions)*
	1950	
1	China	555
2	India	358
3	United States of America	158
4	Russian Federation	102
	1998	
1	China	1 256
2	India	982
3	United States of America	274
4	Indonesia	206
5	Brazil	166
6	Pakistan	148
7	Russian Federation	147
8	Japan	128
9	Bangladesh	125
10	Nigeria	106
	2050	
1	India	1 478
2	China	1 529
3	United States of America	349
4	Pakistan	345
5	Indonesia	312
6	Nigeria	244
7	Brazil	244
8	Bangladesh	212
9	Ethiopia	169
10	Democratic Republic of the Congo	160
11	Mexico	147
12	Philippines	131
13	Viet Nam	127
14	Russian Federation	121
15	Iran (Islamic Republic of)	115
16	Egypt	115
17	Japan	105
18	Turkey	101

Source: Population Division, Department of Economic and Social Affairs of the United Nations Secretariat, *World Population Prospects: The 1998 Revision* (United Nations publication, forthcoming).

8. Since 1970–1975, world total fertility has declined by 39 per cent from 4.5 births per woman to the current level of 2.7 births per woman. In the less developed regions, women are currently having more than two fewer children than women did three decades ago. The average number of births per woman in the less developed regions declined by 45 per cent from 5.4 during 1970–1975 to 3.0 in 1995–2000. In the more developed regions, fertility declined from 2.1 births per woman during 1970–1975 to a historical low of 1.6 for the current period, 1995–2000. Even though fertility has declined to relatively moderate levels in many developing countries, and to below replacement level in some, a large and growing number of live births are occurring annually, owing to the continued growth in the number of women of childbearing age, a legacy of past high fertility levels. In the less developed regions, the average number of births per year was 104 million in 1970–1975; the annual number has grown to 117 million births today.

9. Variations in fertility among the major areas of the world persist. Total fertility rates range from 1.4 and 1.9 births per woman in Europe and Northern America respectively, to 5.1 in Africa. Rates for Asia and Latin America and the Caribbean fall in between at 2.6 and 2.7 births per woman respectively. Analysis of trends in fertility for 184 countries shows that in 1970–1975, 79 countries exhibited fertility levels greater than six children per woman, whereas 16 countries had fertility below the replacement level of 2.1 births per woman. By 1995–2000, the number of high fertility countries was down to 20 and the number below replacement had increased to 58, demonstrating a shift towards lower fertility in all parts of the world (see table 2). Indeed, the data show that as many as 60 countries began their fertility transition as of 1970–1975; nearly half the countries (28) being in Africa, 19 in Asia and 9 in Latin America and the Caribbean. Even among countries that exhibited low fertility 30 years ago, rates have continued to decline. In 22 countries of Europe and Northern America, the current fertility rate is 1.5 births per woman or below. Bulgaria, Italy, the Czech Republic, Romania and Spain have an average of just 1.2 births per woman in 1995–2000, while in the Russian Federation, Germany, Estonia, Greece, Slovenia and Latvia the average total fertility rate is 1.3 births per woman. Fertility, nevertheless, remains high in many countries. For example, total fertility is still above 6.5 births per woman in 10 countries or areas, namely, Afghanistan, Angola, Burkina Faso, the Gaza Strip, Malawi, Mali, the Niger, Somalia, Uganda and Yemen.

10. Even though there is broad agreement about conditions that favour the onset of the fertility transition, there is no consensus regarding specific conditions that need to be present for the transition to begin. In countries where fertility has started to decline, a significant increase in contraceptive prevalence was an important contributing factor. Other factors associated with fertility decline include a decline in levels of child mortality, increased levels of education among women, increased urbanization and increases in age at marriage. However, each of these principal factors does not always autonomously lead to fertility decline, nor are these factors always collectively associated with changes in fertility levels. In the post-transition countries, where fertility is increasingly becoming lower, increased status of women appears to be one of the important determinants of continued low fertility.

Table 2
Distribution of countries according to level of total fertility rate in 1970–1975 and 1995–2000 by major area

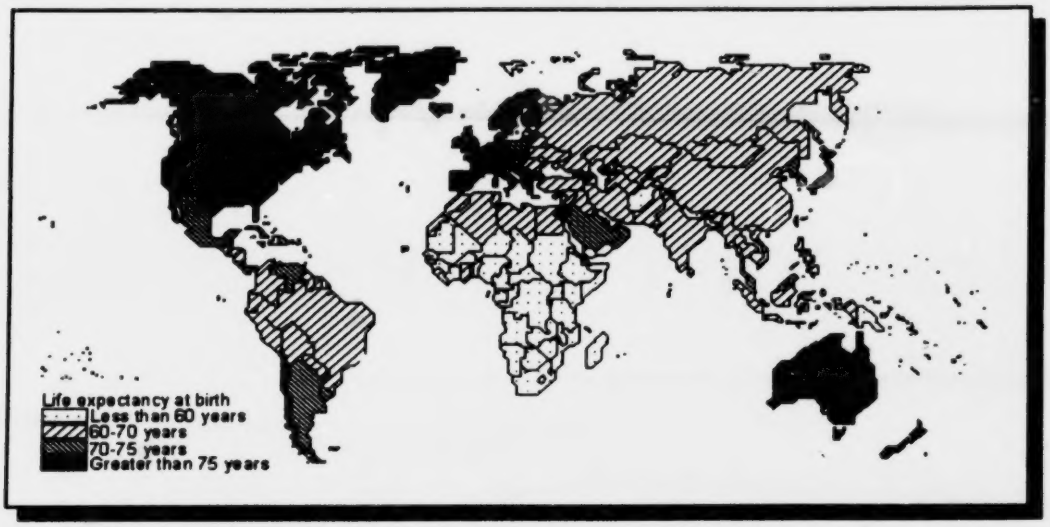
Total fertility rate	*Africa*	*Asia*	*Latin America and the Caribbean*	*Oceania*	*Europe and Northern America*	*Total*
			1970–1975			
6.0 and over	44	22	9	4	0	79
5.0–5.9	5	13	6	1	0	25
4.0–4.9	2	6	7	3	1	19
3.0–3.9	2	4	7	0	2	15
2.1–2.9	0	5	2	2	21	30
Less than 2.1	0	0	0	0	16	16
	53	50	31	10	40	184
			1995–2000			
6.0 and over	17	3	0	0	0	20
5.0–5.9	17	7	0	0	0	24
4.0–4.9	9	6	6	4	0	25
3.0–3.9	7	9	5	1	0	22
2.1–2.9	2	13	15	3	2	35
Less than 2.1	1	12	5	2	38	58
	53	50	31	10	40	184

Source: Population Division, Department of Economic and Social Affairs of the United Nations Secretariat, *World Population Prospects: The 1998 Revision* (United Nations publication, forthcoming).

11. At the global level, the continuing progress in the reduction of mortality is revealed in the increase in the level of life expectancy at birth from 58 years prior to the 1974 United Nations World Population Conference in Bucharest to 65 years today (see figure II). Simultaneously infant mortality has declined from 93 deaths per 1,000 live births to 57 today. The Programme of Action of the International Conference on Population and Development[1] stipulates that life expectancy at birth should universally exceed 70 years (65 years in countries with the highest levels of mortality) by the year 2005. Should the mortality assumptions of *The 1998 Revision* of the United Nations population estimates and projections hold, by 2005 life expectancy would still be lower than the Programme of Action goal in 72 countries. In 54 countries with a combined population of 870 million, life expectancy would not have reached the level of 65 years.

12. The causes of recent national mortality trends include a large array of factors. The medical and hygienic interventions to combat or prevent infectious and parasitic diseases were largely responsible for the rapid decreases in communicable diseases and ensuing mortality declines, especially among children, that many developing countries had experienced since the 1960s. However, the war against communicable diseases is not yet won. Globally, infectious and parasitic diseases, respiratory infections, malnutrition, and maternal and neonatal mortality account for more than 40 per cent of all deaths.

Figure II
Life expectancy at birth, 1995–2000 (both sexes)



Source: Population Division, Department of Economic and Social Affairs of the United Nations Secretariat, *World Population Prospects: The 1998 Revision* (United Nations, New York, forthcoming).

Note: Estimates are not presented for countries or areas with population under 150,000.

13. Recent years have shown a devastating toll from AIDS in a number of countries, particularly in sub-Saharan Africa. In 29 hard-hit African countries, life expectancy at birth is currently seven years less than would have been expected in the absence of AIDS. In the nine countries with an adult human immunodeficiency virus (HIV) prevalence of 10 per cent or more, life expectancy is, on average, 10 years less than it would have been in the absence of HIV. Yet, the demographic impact of HIV/AIDS is expected to intensify in the future. For example, by 2010–2015, these nine countries will lose 16 years of expected life expectancy to AIDS.

14. Botswana is the hardest-hit country: one of every four adults is infected by HIV. Life expectancy at birth has dropped from 61 years in 1990–1995 to 47 years in 1995–2000. Owing to the impact of AIDS, life expectancy is projected to further fall to 41 years by 2000–2005. In Zimbabwe, the second hardest-hit country, one of every five adults is infected. Life expectancy at birth fell to 52 years in 1990–1995 and is projected to further decrease to 44 years in 1995–2000 and 41 years in 2000–2005. The South African epidemic began later than in Zimbabwe. One of every eight adults was infected by the virus in 1997. Owing to the later start, the demographic impact is yet to come. In 1990–1995, life expectancy at birth (estimated at 59 years) was barely affected by HIV/AIDS. However, projections show that by 2005–2010, life expectancy at birth will fall to under 45 years.

15. Decreasing mortality from cardiovascular diseases and neoplasms in many of the more developed countries during the last decades was made possible by advances in medical treatment and beneficial changes in lifestyles. However, some of the countries of Eastern Europe have been experiencing a stagnation of mortality improvement and even declines in national life expectancies. Mortality in these countries has been particularly high among adult males, owing to non-communicable diseases, accidents, injuries and violent deaths.

16. During the twentieth century, the contribution of net migration to population growth has been of minor demographic importance for most countries, especially those where natural increase has been high. However, the marked reduction of fertility experienced by a growing number of countries over the past three decades means that the role of international migration in determining population growth has been rising. For developed countries in particular, the low levels of fertility that have prevailed over recent periods means that moderate or even low levels of international migration have had a significant impact on population growth. Estimates derived from *The 1998 Revision* of the United Nations population estimates and projections indicate that during 1970–1995 the Western market economy countries absorbed 35 million migrants in net terms and that such net migration accounted for 28 per cent of their combined population growth. In contrast, the loss of those 35 million migrants reduced population growth in the rest of the world by under 2 per cent.

17. Net migration for most countries accounted for a low percentage of natural increase: in 54 per cent of all countries, net migration increased or decreased natural increase by 12 per cent or less. However, in 15 countries net migration reduced natural increase by four fifths or more, and in 24 countries net migration raised natural increase by a third or more. Countries or areas where net migration contributed to raising population growth by a sizeable percentage of natural increase were of two types: (a) countries with relatively small populations and moderate to high rates of natural increase; and (b) countries with very low rates of natural increase. Both types tend to be characterized by having fostered the admission of international migrants since 1970. They include the main traditional countries of immigration and many of the European market economy countries and the oil exporting countries of Western Asia.

18. It has been suggested that emigration tends to be higher where population growth rates are high. A comparison of natural increase and net migration by country indicates that the relation between the two may not be simple. The data show that although at very low levels of natural increase (below 0.5 per cent) countries appear more likely to experience immigration rather than emigration, at high levels of natural increase (above 2 per cent), there are numerous countries experiencing both net immigration and emigration. The analysis suggests that rapid rates of population growth do not on their own necessarily lead to increased emigration.

19. Continued high rates of population growth remain an issue of policy concern for many countries of the world, although fewer countries are now expressing a concern than at the time of the 1994 International Conference on Population and Development. In fact, in response to low levels of fertility in a growing number of countries, and the social and economic consequences of the resultant population ageing, more countries are expressing concern about their low rates of population growth. The proportion of Governments that consider their rate of population growth to be too high declined from 44 per cent in 1993 to 41 per cent in 1998. In parallel, the proportion of Governments perceiving their growth rate to be too low increased from 11 per cent in 1993 to 14 per cent in 1998 (see table 3).

Table 3
Governments' views on population growth rate, 1974–1998
(Percentage of countries)

Year	*Too high*	*Satisfactory*	*Too low*	*Total*	*Total number of countries*
1974	27.6	47.4	25.0	100.0	156
1983	36.3	45.2	18.5	100.0	168
1993	43.7	45.3	11.0	100.0	190
1998	41.1	44.4	14.5	100.0	180

Source: The Population Policy Data Bank maintained by the Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat.

20. Most of the countries that express the view that their rates of population growth are too high are in the less developed regions. Countries that view their population growth as satisfactory include most of the developed countries, as well as a majority of countries in South America and a few countries in Africa and Western Asia. Countries that view their population growth as too low are located primarily in Eastern Europe and Western Asia, with a small number scattered in other regions. In 1998, the greatest shift in views with regard to population growth occurred among the countries of the former Union of Soviet Socialist Republics (USSR) and in Eastern Europe. Many of these countries considered their population growth to be satisfactory in 1993 but by 1998 had shifted to the view of considering their population growth rates to be too low.

21. The proportion of Governments that have policies aimed at influencing population growth increased from 45 per cent in 1974 to 63 per cent in 1993. By 1998, this proportion had declined to 56 per cent. Seventy Governments (39 per cent) have policies aimed at lowering population growth while 18 (10 per cent) have policies aimed at increasing population growth. In developing countries, during the 15-year period from 1983 to 1998, the proportion of Governments intervening to influence population growth increased from 58 to 65 per cent. The proportion of Governments of developed countries intervening to influence population growth declined between 1983 and 1998 because a number of countries with policies to maintain or increase the rate of population growth shifted to a policy of non-intervention.

22. In Africa, an increasing number of countries are adopting population policies and intensifying efforts to reduce population growth. Likewise, in Asia, a significant number of countries consider their population growth rates to be too high. In contrast, all countries of Eastern Asia view their population growth rates as satisfactory, except China which despite impressive results in reducing population growth has resumed viewing its population growth rate as too high. A number of countries in South-central Asia that earlier viewed the population growth rate as satisfactory, in 1998 perceived it as too low and changed their policy of maintaining the growth rate to a policy of raising it. Of the 16 Governments of Western Asia whose views regarding population growth were known, six consider their growth rate to be too low and have a policy to increase it. In Latin America and the Caribbean, an increasing number of countries (62 per cent) consider their population growth rates to be satisfactory. A majority of the small, densely populated countries in the Caribbean, and three countries in Central America, consider population growth to be too high, whereas almost all countries in South America consider it to be satisfactory.

23. In Europe, an increasing number of countries are concerned with issues of declining fertility, declining population and ageing. In 1998, of the nine Governments of Eastern

Europe whose views regarding population growth were known, seven considered it to be too low. Many of these Governments inaugurated policies to alter the current demographic situation and to increase population growth. Among the 24 countries of Europe that already responded to the Eighth United Nations Inquiry among Governments on Population and Development, 9 (38 per cent) indicated that their goal was to raise fertility. In Oceania, both Australia and New Zealand remain satisfied with their population growth rates.

II. Changing population age structures

24. An inevitable consequence of the demographic transition and the shift to lower fertility and mortality has been the evolution in population age structure. Developed countries have attained older age structures than were ever seen in the past, while developing countries are undergoing rapid shifts in respect of the share of children, youth and adults.

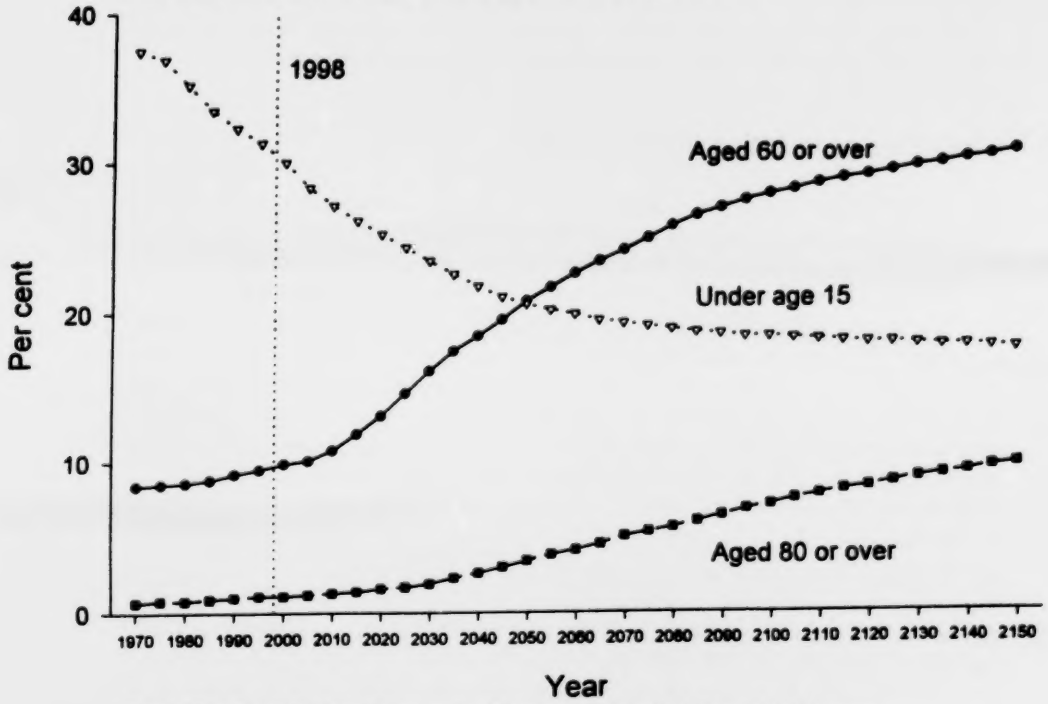
25. The world child population, that is to say, those under age 15, is 1.8 billion in 1998. Between 1970 and 1998, the child population increased from 1.4 billion to 1.8 billion. Children make up 19 per cent of the population of more developed regions and 33 per cent of that of less developed regions. Ages 15–24 represent a transition from childhood to adulthood. Rapid growth in the number of young people means rapid growth in the demand for secondary and higher education, jobs and housing. World youth numbered 1 billion in 1998, almost 60 per cent more than in 1970, and by 2050, youth are projected to number 1.3 billion.

26. Although the world population of older persons is considerably smaller than the child population, it is growing at a much faster rate (see figure III). In 1998, there were 580 million persons aged 60 years or over in the world, constituting 10 per cent of the world population. By 2050, this figure will triple to nearly 2 billion, when it will be larger than the child population. The older population is increasing at a substantially faster rate in the less developed than the more developed regions. The oldest old, persons aged 80 years or over, are the fastest growing segment of the older population. By 2050, the number of oldest old is projected to be 5.6 times larger than at present (66 million) and will constitute 4 per cent of the world population. In more developed regions, 1 person in 11 will be aged 80 years or over. The "oldest" country in the world in 1998 was Italy, with 1.6 persons aged 60 years or over for each person under age 15, followed by Greece, Japan, Spain, Germany. By 2050, the oldest country will be Spain with 3.6 persons, aged 60 years or over for each person under age 15. Uganda is the world's youngest country, with 1 in every 31 persons aged 60 years or over in 1998.

27. The regional composition of the older population is very different from that of the child population. In 1998, more developed regions contained about two fifths of the world's older people, but only one out of every eight children. By 2050, more developed regions will contain less than one fifth of the world's older persons. A further contrast is that during 2040–2050, the older population will still be growing at an annual rate exceeding 1.7 per cent — and the population aged 80 years or over will be growing by more than 3 per cent per year. By that time, the youth and child populations will have near-zero growth rates. By 2150, persons aged 60 years or over will number 3.3 billion, representing nearly one out of every three persons. One in every 10 persons will be aged 80 years or over. Only 18 per cent of the population will be under age 15. At older ages, women outnumber men. At ages 60 years or over, there were 81 men for every 100 women globally in 1998, and at ages 80 years or over, there were only 53 men for every 100 women.

Figure III

Percentage of the world population under age 15, aged 60 years or over and aged 80 years or over, 1970–2050, medium fertility variant



Source: Population Division, Department of Economic and Social Affairs, United Nations Secretariat. *World Population Prospects: The 1998 Revision* (United Nations, New York, forthcoming).

28. Changing age structure is likely to have wide-ranging economic and social consequences through such factors as economic growth, savings and investment, labour supply and employment, pension schemes, health and long-term care, intergenerational transfers, family composition and living arrangements. While once limited to developed countries, concern for ageing's consequences has spread to developing countries.

29. Because savings fuel economic growth, the relation between savings and ageing is an important policy issue. Savings rates peak at the end of working life and fall in retirement; however, the importance of this pattern for economic performance is unclear. Ageing's effects are transmitted through three channels: shrinking labour force, reduced household savings, and increased government pension and health expenditures. Evidence suggests that East Asia's rapid income growth is in part attributable to the rising share of the working age population. The shrinking share of youth led to fewer expenditures on children, inducing higher savings and investment. The studies show that favourable demographic trends are not, however, in themselves sufficient to promote economic growth. Rather, a growing labour force combined with flexible labour markets, human capital investment and successful export promotion has generated employment.

30. Demographic change is also an important determinant of labour supply. In Europe, the working age population is growing faster than total population, and this, accompanied

by increasing female labour participation and weak employment generation, has produced persistently high unemployment. Another feature is the unprecedented withdrawal of older men from the workforce. Declining participation is due, at least in part, to improved pension benefits and the easing of eligibility for claiming disability benefits and pensions.

31. Sparked by the difficulty in sustaining pension systems, alternatives to the traditional pay-as-you-go schemes, in which current workers pay the benefits of current retirees, are being examined. These debates are framed against a broader context of redefining Governments' role in ensuring a minimum income for older persons and have ushered in innovation and experimentation, particularly as concerns privatization. Faced with insolvency, some countries are bolstering the schemes' viability by raising the retirement age. In Latin America, countries are restructuring by adopting schemes that combine pay-as-you-go and privatized mandatory savings plans.

32. Changing age structure also poses challenges in the health and long-term care sector. These expenditures are concentrated among older populations, especially the oldest old. Spurred by the significant increase in the oldest old, expenditures for their care have risen dramatically, leading to the implementation of major reforms. Many of these measures aim for cost containment, by expanding the number of nursing homes, as an alternative to hospital-based services, and providing day care and respite care to enable older persons to remain in their own homes.

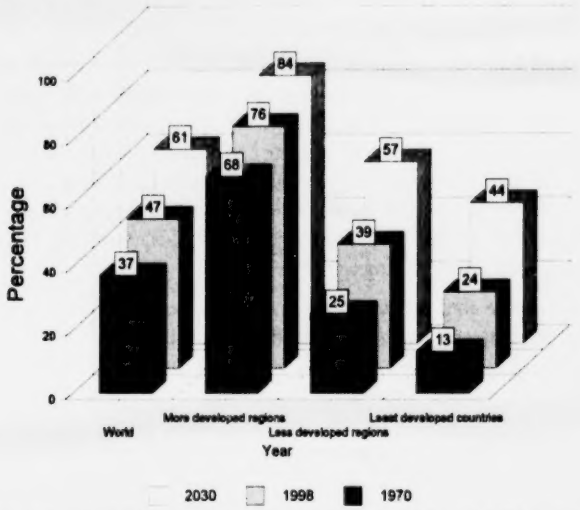
33. The convergence of demographic and other trends is resulting in smaller households. While gains in life expectancy imply a greater potential for co-residence, the percentage of older persons living with a child is rapidly decreasing in developed countries. In developing countries, the dominant living arrangement continues to be co-residence. With declining fertility and fewer caregivers, the tendency is one of weakening family support for older persons in developed and some developing countries, increasing strains on formal support. Most countries, especially in developing regions, rely almost exclusively on the extended family — usually women — to care for older persons. Working women are disadvantaged, as they often have the triple responsibility of working, child-rearing and caregiving to ageing parents. Some countries are strengthening informal support by providing low-cost "granny flats" or according public housing priority to adult children living with parents.

34. Changes in age distribution have complex implications. An important issue is the allocation of limited public resources. Accordingly, planning requires sensitivity to demographic changes. As developed countries have shown, despite prolonged ageing, adjustment to ageing is not smooth. Given that large shifts in age structure are being compressed into a short period in developing countries, these countries will have less time than developed countries to adapt to changing age structure.

III. Population distribution, urbanization and internal migration

35. A major transformation during the twentieth century has been that entailing the growth of urban centres and the concentration of population in urban areas. Throughout human history, the world has been primarily rural. However, this situation will change in the near future owing to the more rapid growth of urban areas. As of mid-1998, 47 per cent of the world population lived in urban areas (see figure IV). This urban population is growing three times faster than its rural counterpart. As a result, half of the world population is expected to be urban by 2006. Approximately three fifths will be living in urban areas by 2030.

Figure IV
Percentage of population residing in urban areas, 1970, 1998 and 2030



Source: Population Division of the Department of Economic and Social Affairs at the United Nations Secretariat. *World Urbanization Prospects: The 1996 Revision* (United Nations, New York, 1998).

36. The urban population is growing at a rate of 2.3 per cent per year. Rural-urban migration accounts for about 40 per cent of urban growth. The urban growth rate is expected to decline to reach 1.6 per cent per annum by 2025–2030. In spite of the declining urban population growth rate, the average annual increment of the world's urban population is steadily becoming larger. The annual increment during the period 1970–1998 was 50 million inhabitants, and it is projected at 74 million between 1998 and 2030.

37. The ratio of men to women is much higher in urban areas than in rural ones in all regions of Africa (except for Northern Africa), as well as in Southern Asia and Western Asia, reflecting the predominance of male migrants in cities. In Northern Africa, Eastern Asia and South-eastern Asia, the sex ratios were nearly the same in urban and in rural areas, showing no gender difference in urbanization. In all the regions of Latin America and the Caribbean, as well as in all the more developed regions, the ratios of men to women indicate higher urbanization among the women than among the men.

38. The proportion of urban dwellers living in the agglomerations of 10 million or more increased from 3 to 7 per cent between 1970 and 1995, and is expected to reach 11 per cent by 2015. These giant urban agglomerations, a recent phenomenon, are becoming both larger and more numerous. The largest cities in the world in 1998 were Tokyo, with a population of 28 million, Mexico City (18 million) and São Paulo (17 million). By 2015, Lagos will be the third largest urban agglomeration in the world (25 million), after Tokyo (29 million) and Bombay (26 million).

39. Between 1970 and 1998, the number of cities with 10 million or more inhabitants grew from 3 to 18. Of the 18 cities with 10 million or more inhabitants in 1998, 2 are in Africa (Lagos and Cairo), 4 in Latin America and the Caribbean, 2 in Northern America and 10 in Asia. It is projected that by 2015, 26 cities will have a population of 10 million or more (2 in Northern America, 2 in Africa, 18 in Asia and 4 in Latin America and the Caribbean).

However, half of the world urban population still lives in smaller cities with fewer than 500,000 inhabitants.

40. The urbanization trends experienced by developed countries until the 1950s suggested that the increasing concentration of the urban population in ever larger urban centres was a natural concomitant of the rising proportion of people living in urban areas. However, between 1965 and 1985, a tendency towards "counterurbanization", a process whereby larger metropolitan areas lost population in relative terms to smaller urban centres, was noticed in a number of developed countries. Despite the expectation that the shift away from population concentration in the larger metropolitan areas to that in medium-sized and small settlements would accelerate during the 1980s, recent evidence has failed to corroborate such a trend and suggests that the tendency towards population concentration in the larger urban places has returned. The most significant reversal seems to have taken place in the United States during the 1980s, though there is also evidence that the growth rates of Paris, London and elsewhere have increased in recent years.

41. The movement of people from rural to urban areas is only one of the possible forms of internal migration. In fact, despite the emphasis generally placed on it, rural-urban migration does not account for the largest proportion of internal migrants. In countries, such as Ethiopia, India and Thailand, that are still largely rural, rural-rural migration is more important, whereas in countries that are highly urbanized, urban-urban migration dominates (as in Brunei Darussalam, the Republic of Korea in the 1990s, Brazil and Peru); that is to say, although rural-urban migration and its counterpart, urban-rural migration, contribute to the redistribution of population between urban and rural areas, at certain stages of the urbanization process the other types of migration (rural-rural and urban-urban) may be more important in the redistribution of population within each geographical stratum.

42. The participation of women varies by type of flow. In Egypt, India and Pakistan, for instance, the participation of women tends to be more marked in flows directed towards rural areas, especially in rural-rural migration. In contrast, in the Philippines, Thailand, Brazil and Honduras, the participation of women has been considerably more marked among flows directed to urban areas, be they rural-urban or urban-urban. Furthermore, women have tended to outnumber men by wide margins in all those flows. The participation of women in overall internal migration (without distinction as to type of flow) varies considerably from region to region. Among 15 countries with the required data, women account for at least 43 per cent of internal migrants and, as is indicated above, women outnumber men among internal migrants in Latin America and the Caribbean. In addition, the share of women in internal migration in Cape Verde and Ethiopia is above 50 per cent, and in Nepal, Thailand and Zimbabwe it varies between 49 and 50 per cent.

43. In 1998, 44 per cent of Governments considered their patterns of population distribution to be a major concern (see table 4). Another 29 per cent saw their patterns of population distribution to be a minor concern. In many developing countries, population distribution policies are largely synonymous with measures to reduce or even to attempt to reverse rural-urban migration, with the aim of controlling the growth of the primate city or other large metropolitan areas. Evidence indicates that these policies have not always been effective. Partially in response, many countries have adopted strong rural-oriented spatial policies.

44. Most African countries continue to be greatly concerned with reducing out-migration from rural areas. Thus, Africa has consistently been the region where Governments are most dissatisfied with their patterns of population distribution. In 1998, 63 per cent of the Governments in Africa considered their patterns of population distribution to be a major concern. Another 25 per cent saw population distribution as a minor concern. Only 12 per

cent considered their patterns of population distribution to be satisfactory. Since the early 1960s, Asian countries have expressed strong dissatisfaction with patterns of population distribution. As of 1998, only 20 per cent of Asian countries considered their patterns of population distribution to be satisfactory; 43 per cent viewed it as a major concern, and 37 per cent considered it to be a minor concern. The countries of Latin America and the Caribbean also considered their patterns of population distribution to be a concern. In 1998, just under half of countries in the region viewed population distribution as a major concern and 21 per cent as a minor concern. Europe has the highest proportion of Governments that consider their patterns of population distribution to be satisfactory — 49 per cent in 1998. Thirty-one per cent of Governments report that they saw population distribution as a major concern, and 20 per cent as a minor concern.

Table 4
Governments' views on spatial distribution, 1998
(Number of countries)

	View			
By level of development	*Satisfactory*	*Minor change desired*	*Major change desired*	*Total*
World	49	52	78	179
More developed regions	21	14	9	44
Less developed regions	28	38	69	135
Of which least developed countries	6	12	29	47

Source: Population Policy Data Bank maintained by the Population Division of the United Nations Secretariat; *National Population Policies* (United Nations publication, forthcoming).

45. Whereas many Governments throughout the developing world have strongly endorsed the concept of promoting small and medium-sized cities, how to go about it is far less clear. A number of Governments have also in recent years adopted policies that seek to work alongside market forces — by channelling private investment to designated areas, providing infrastructure in under-served areas or removing subsidies that previously favoured the residents of certain locations such as the national capital. The idea behind this approach is to create a "level playing field" whereby a number of areas of a country are equally attractive to potential migrants. Megacity size per se may not always be a critical policy variable. The key challenge is to efficiently manage megacity growth. Management of urban growth becomes more important as the integration of the world economy and the expansion of international trade and investment change the bases of urban economic growth in the twenty-first century.

IV. Population growth, poverty, food provision and the environment

46. Debates surrounding the consequences of population growth for the pace of economic development are both vigorous and contentious. Recent decades have witnessed major swings in thinking about population and development interrelationships. In general, the impacts of rapid population growth have been judged to vary considerably by country and over time, and have been considered to be relatively small by comparison with other determinants of economic prosperity. Nevertheless, there is a general view that the rapid

population growth of many developing countries makes it more difficult for these countries to achieve improvements in their standard of living.

47. There are arguments to suggest that, as fertility declines and the proportion of the population in the economically most productive ages rises, resources thereby freed from care for a larger child population can be productively directed to increased labour force participation (especially of women) and increased investment in both physical and human capital, thereby speeding economic development. An influential study by the United States of America's National Research Council, in 1986, reached the "... qualitative conclusion that slower population growth would be beneficial to the economic development of developing countries". This effect has been termed the "demographic bonus" (or the "economic gift") from declining fertility.

48. The importance of this effect was called into question, however, since more than a dozen studies using cross-country data for the 1960s and 1970s failed to unearth a statistically significant association between the growth rates of population and per capita output. However, recent assessments have revealed fairly large, economically important negative correlations between population change and per capita output growth based on data for the 1980s or later and for the entire period from the 1960s through the early 1990s. The negative effect of high fertility on economic growth also appears greater for poorer countries. Results also indicate that declining fertility may contribute to reductions in poverty.

49. Recent studies have gone beyond merely relating economic and population growth rates by examining separately different components or aspects of population change, which can have effects that tend to cancel out when only the total rate of population growth is studied. The studies have focused especially on (a) age-distributional changes as emphasized in life-cycle modelling by economists and (b) demographic components modelling (births, deaths, migrants) as emphasized by demographers and policy analysts. These decompositions reveal reasonably strong impacts of specific aspects of demographic change, even in cases where the overall effect of population growth appears nil. Such results show how a near-zero correlation between population and economic growth rates can conceal, during a historical period, important offsetting effects of the components of population change.

50. At present, this is an area of active research work, where models and results are still emerging. While it is clear that the demographic factors remain important when other variables commonly employed to understand economic growth cross-nationally are included in the analysis, other questions remain to be answered, including the reconciliation of the weak and inconsistent results for earlier periods with the strong results observed when more recent data are included. Has the impact of population growth changed? Is it that, until the recent period, few countries had progressed far enough through the fertility transition for the age-structural effects to become economically important? Could it be that the negative consequences of rapid population growth associated with diminishing returns to capital and the environment are emerging as relatively more important than, say, the positive impacts of scale, or induced innovation/technical change, and/or attenuating feedbacks? Are there unique features associated with economic conditions in the 1980s (a period encompassing significant structural adjustments, world recession, wars, and droughts) as well as the early 1990s (generally a period of stronger economic growth) that could account for the changed findings?

51. It is generally recognized that government policies condition the form and the size of population's impacts on the economy. Unfortunately, very little is known about how Governments react to rapid population growth, apart from policies aimed at influencing

population growth itself. The Programme of Action of the International Conference on Population and Development reflected a consensus that slower population growth buys time for Governments to adjust. However, slowing population growth does not itself ensure that favourable policy and institutional changes will occur. The time bought by slower population growth may be squandered if needed policy changes are not made.

52. It is widely believed that the most important factor accounting for poverty is the macroeconomic environment, and especially factors that govern the growth of employment. To the extent that macroeconomic growth is adversely influenced by the pace of demographic change, then poverty will be adversely impacted by rapid population growth as well. Statistical studies of economy-wide data have not firmly established notable effects of demographic change on poverty rates. Indeed, data on poverty levels are too sparse for most countries to study this issue over time.

53. It is often noted that high fertility may be a rational strategy of poor families in response to conditions of high mortality — high fertility is needed to ensure that some children will survive to adulthood — and to a traditional, low technology economy, in which (unschooled) children can begin to contribute economically at a relatively young age. However, for most of today's poor, current conditions in the surrounding society are substantially different from those of pre-modern times, and are changing rapidly. The available evidence from direct survey questions about family size desires suggests that, in many settings, poor, rural, and uneducated parents currently want only modestly larger families than their better off counterparts. The actual difference in fertility levels between the more and less advantaged tends to be much larger than the difference in desired family size: apparently, the more advantaged groups have been more successful in achieving desired family size.

54. Even though the expansion of food available per person in developing countries has grown at an impressive pace in recent decades (from 1,900 to 2,600 calories per day), and total food production has more than doubled, the distribution of food has been uneven, and starvation and malnutrition are still pervasive, especially in Africa and parts of Asia. In the face of notable demographic pressures in the future, a comparison of population with carrying capacity estimates indicates that persistent food shortages can be avoided, as long as there are improvements in and prudent management of rural sector production. An important element in food provision is the need to reckon growing environmental costs. Deforestation constitutes the most conspicuous example of environmental change in farming. Studies across many countries and ecological settings reveal a positive correlation between deforestation and population growth. The strength of these correlations varies substantially between settings and depends on factors such as access to and ownership of land, restrictions on foresting, the relative economic attractiveness of using intensive versus extensive cultivation techniques (strongly influenced by land tenure and government policies) and the like.

55. Many Governments view their population size, growth or distribution as a cause for concern in relation to environmental problems. Water pollution, the amount of fresh water and deterioration of the urban environment are areas over which serious concern has often been expressed regarding population's impacts. Rarely do Governments seek a solution to environmental problems solely through altering population trends or distribution. In many cases, though, Governments report a policy approach that combines measures to affect population trends or distribution with other approaches to alleviating environmental problems.

56. Given the nature of environmental resources, enlightened government policies are critical to population-environmental interactions. Because market and policy failures may

be extensive, seemingly adverse impacts of population growth can be high, although slowing population growth may not halt environmental decay, and the impacts in many settings may in reality be relatively small. This is because, without Government policies that correct market failures and provide appropriate incentives for individual/firm behaviours, environmental degradation will continue, albeit at a reduced pace; and the possibility of increased economic prosperity associated with reduced population growth can itself carry with it pressures on the environment. Thus, the impacts of demographic change can best be viewed as "amplifying" the impacts deriving from the more fundamental causes of environmental degradation.

57. In summary, poverty reduction, food provision and environmental maintenance are integrally linked with demographic, economic and political change. "Vicious circles" of cumulatively worsening performance in each of the latter two dimensions may be exacerbated by rapid population growth. Breaking this interacting web can be facilitated by government policies that promote income growth, empower the poor with education and health, and provide incentives to behave prudently in the allocation of resources. Such policies can lead to "virtuous circles" of cumulatively improving performance in all three dimensions. In such a situation, children are less likely to be seen as producing agents, women's and men's roles change, and the demand for reproductive health services increases. Economic and demographic change are mutually interacting forces influenced by institutional settings and government policy. As a result, population policies are an important element of the policy-making components needed to advance social and economic development, eliminate poverty and foster long run environmental stewardship.

Notes

[1] *Report of the International Conference on Population and Development, Cairo, 5–13 September 1994* (United Nations publication, Sales No. E.95.XIII.18), chap. I, resolution 1, annex.

Annex

Data collection, data availability and data quality

1. Knowledge of demographic change and its interrelationships with aspects of development needs to be based on timely and high quality data. The principal data-collection systems for demographic and social information are population censuses, sample surveys and civil registration systems. These systems have provided the primary means for measuring basic demographic parameters such as size and growth of population, components of growth and vital rates. Although international migration is an important source of demographic change, statistics on immigration and emigration are not available for many countries on a regular basis.

2. Population censuses remain the most important source of key demographic information at all geographical levels for planning and implementation of development programmes. In the 1990 census decade, 200 countries and areas carried out their censuses, representing a 95 per cent coverage of the world's population. The challenge countries are facing for the 2000 round is how to mobilize resources to conduct future population censuses and to look beyond the traditional sources of financing census activities by involving all sectors of civil society.

3. Sample surveys are an important tool for obtaining detailed demographic and social data, particularly with respect to fertility and mortality. However, surveys normally cannot provide data at small geographical levels and, therefore, are not a substitute for censuses. Nonetheless, because of the smaller scale, surveys have greater depth than a census, tend to employ better qualified and better trained enumerators than censuses do and, for fertility and mortality data, are generally found to be relatively more reliable than the census. When a complete and reliable civil registration system exists in a country, it is the ideal source of levels and patterns of fertility, mortality and nuptiality used to monitor population growth and assess the health situation of the population including maternal, child and infant death for the country as a whole, and its regions, subregions and communities. The main advantages of civil registration are its continuity, its permanency and its country-wide scope. Unfortunately, in many developing countries registration is either weak or almost entirely lacking.

4. Over the years, national statistical systems have improved considerably but there is still much to be done to institutionalize the gains. Data collection, processing and dissemination technologies are changing rapidly. Statistically less developed countries are lagging behind in respect of keeping pace with these rapid changes. Besides, data-collection costs are rising rapidly and countries are finding it difficult to collect and disseminate data on a regular basis.